EMAG

ELECTRIC MOTORS AND GEARBOXES LTD

Your Partner in Solutions 24/7

EMAW Worm Gearboxes

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To install the reduction unit it is necessary to note the following recommendations:

- The mounting on the machine must be stable to avoid any vibration.
- Check the correct direction of rotation of the reduction unit output shaft before fitting the unit to the machine.
- In the case of particularly lengthy periods of storage (4/6 months), if the oil seal is not immersed in the lubricant inside the unit, it is recommended to change it since the rubber could stick to the shaft or may even have lost the elasticity it needs to function properly.
- Whenever possible, protect the reduction unit against solar radiation and bad weather.
- Ensure the motor cools correctly by assuring good passage of air from the fan side.
- In the case of ambient temperatures < -5°C or > +40°C call the Emag offfice.
- The various parts (pulleys, gear wheels, couplings, shafts, etc.) must be mounted on the solid or hollow shafts using special threaded holes or other systems that anyhow ensure correct operation without risking damage to the bearings or external parts of the units. Lubricate the surfaces in contact to avoid seizure or oxidation.
- Painting must definitely not go over rubber parts and the holes on the breather plugs, if any.
- For units equipped with oil plugs, replace the closed plug used for shipping with the special breather plug.
- Check the correct level of the lubricant through the indicator, if there is one.
- Starting must take place gradually, without immediately applying the maximum load.
- When there are parts, objects or materials under the motor drive that can be damaged by even limited spillage of oil, special protection should be fitted.
- The reduction units size 025-030-040-050-063-075-090 are supplied complete with lubricant for life, synthetic oil, and can therefore be mounted in any position envisaged in the catalogue.
- The reduction units size 110, 130 and 150 are supplied complete with lubricant, mineral oil.
- For sizes 110, 130 and 150 it is necessary to specify the position, otherwise the reduction units are supplied with the quantity of oil relating to position B3, (breather supplied).
- Only reduction units 110, 130 and 150 are fitted with breather, level and oil drainage plugs. It is necessary, after installation, to replace the closed plug used for transportation with the breather plug supplied with the unit.
- The pre-stage helical modules are supplied complete with life-long lubricant, synthetic oil and can therefore be mounted in all the positions. Lubrication is separated from that of the worm reduction unit.

Lubrication

In cases of ambient temperatures not envisaged in the table, please call the Emag office.

In the case of temperatures under -30°C or over 60°C it is necessary to use oil seals with special properties.

For operating ranges with temperatures under 0°C it is necessary to consider the following:

1- The motors need to be suitable for operation at the envisaged ambient temperature.

2- The power of the electric motor needs to be adequate for exceeding the higher starting torques required.

3- In the case of reduction units with a cast-iron case, pay attention to impact loads since cast iron may have problems of fragility at temperatures under -15°C.

4- During the early stages of service, problems of lubrication may arise due to the high level of viscosity taken on by the oil and so it is wise to have a few minutes of rotation under no load.

The oil needs to be changed after approximately 10,000 hours. This period depends on the type of service and the environment where the reduction unit works.

	T°C - ISO...	AGIP	SHELL	ESSO	MOBIL	CASTROL	BP
EMAW025-090 PC063-090 (synthetic oil)	-25) - (+50) ISO VG320	Telium VSF320	Tivela oil S320	S220	Glygoyle 30	Alphasyn PG32	Energol SG-XP320
EMAW110-150 (mineral oil)	-5) - (+40) ISO VG460	Blasia 460	Omala oil 460	Spartan EP460	Mobilgear 634	Alphamax 460	Energol GR-XP460
	-15) - (+25) ISO VG220	Blasia 220	Omala oil 220	Spartan EP220	Mobilgear 630	Alphamax 220	Energol GR-XP220

EMAW	025	030	040	050	063	075	090	110	130	150	PC	063	071	080	090
B3								3	4.5	7					
B8								2.2	3.3	5.1					
B6-B7	0.02	0.04	0.08	0.15	0.3	0.55	1	2.5	3.5	5.4		0.05	0.07	0.15	0.16
V5								3	4.5	7					
V6								2.2	3.3	5.1					

All dimensions in millimetres unless otherwise stated.

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Efficiency

Efficiency is a parameter which has a major influence on the sizing of certain applications, and basically depends on gear pair design elements.
The mesh data table on page 321 shows dynamic efficiency (n1=1400 rev/min) and static efficiency values. Remember that these values are only achieved after the unit has been run in.

Dynamic Irreversibility

Dynamic irreversibility is achieved when the output shaft stops instantly when drive is no longer transmitted through the worm shaft. This condition requires a dynamic efficiency of $\eta d < 0.5$.

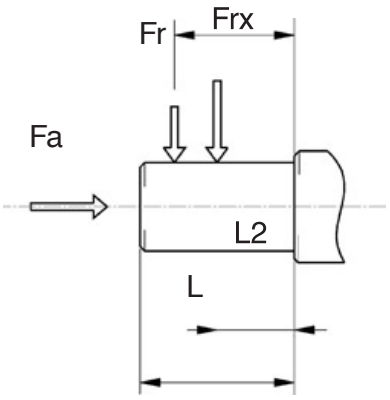
Static Irreversibility

Static irreversibility is achieved when, with the gear reducer at a standstill, the application of a load to the output shaft does not set in motion the worm shaft. This condition requires a static efficiency of $\eta s < 0.5$.

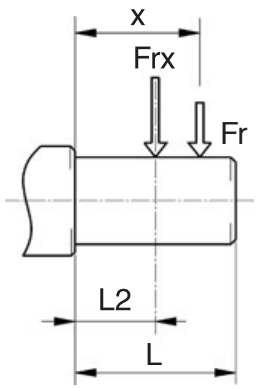
The table shows approximate irreversibility classes.
Vibrations and shocks can affect a gear reducer's irreversibility.
For the irreversibility conditions of a combined geared unit one must consider that the efficiency of the group is given by the product of the efficiencies of each single reducer,
i.e.: $\eta tot = \eta 1 \times \eta 2$

ηd	DYNAMIC IRREVERSIBILITY
> 0.6	Dynamic reversibility
0.5 to 0.6	Low dynamic reversibility
0.4 to 0.5	Good dynamic irreversibility
< 0.4	Dynamic irreversibility

ηs	STATIC IRREVERSIBILITY
> 0.55	Static reversibility
0.5 to 0.55	Low static reversibility
< 0.5	Static irreversibility



EMAW	025	030	040	050	063	075	090	110	130	150
a	50	65	84	101	120	131	162	176	188	215
b	38	50	64	76	95	101	122	136	148	174
Fr2 max	1350	1830	3490	4840	6270	7380	8180	12000	13500	18000



EMAW	030	040	050	063	075	090	110	130	150
a	86	106	129	159	192	227	266	314	350
b	76	94,5	114	139	176	202	236	274	310
Fr2 max	210	350	490	700	980	1270	1700	2100	2800

The radial load on the shaft is calculated with the following formula:

Fre (N) Resulting radial load

M (Nm) Torque on the shaft

D (mm) Diameter of the transmission member mounted on the shaft

Fr (N) Value of the maximum permitted radial load (see relative tables)

fz = 1.1 gear pinion

1.4 chain wheel

1.7 v-pulley

2.5 flat pulley

When the resulting radial load is not applied on the centre line of the shaft it is necessary to calculate the effective load with the following formula:

a , b , x = (see relative tables)

$$Fre = \frac{2000 \times M \times fz}{D} \leq Fr1 \text{ to } Fr2$$

$$Fre \leq \frac{Fr \times a}{(b + x)} \leq Fr1max \text{ to } Fr2max$$

All dimensions in millimetres unless otherwise stated.

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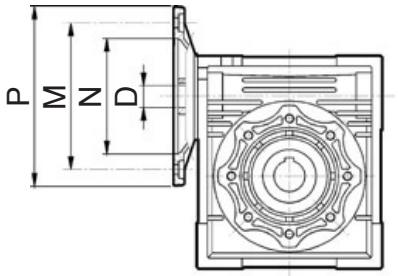

EMAW	PAM IEC	N	M	P	D											
					5	7,5	10	15	20	25	30	40	50	60	80	100
025	56B14	50	65	80	9	9	9	9	9	-	9	9	9	9	-	-
030	63B5	95	115	140	11	11	11	11	11	11	11	11	11	-	-	-
	63B14	60	75	90												
	56B5	80	100	120	9	9	9	9	9	9	9	9	9	9	9	-
	56B14	50	65	80												
040	71B5	110	130	160	14	14	14	14	14	14	14	14	-	-	-	-
	71B14	70	85	105												
	63B5	95	115	140	11	11	11	11	11	11	11	11	11	11	11	11
	63B14	60	75	90												
	56B5	80	100	120	-	-	-	-	-	-	-	-	9	9	9	9
050	80B5	130	165	200	19	19	19	19	19	19	19	-	-	-	-	-
	80B14	80	100	120												
	71B5	110	130	160	14	14	14	14	14	14	14	14	14	14	14	-
	71B14	70	85	105												
	63B5	95	115	140	-	-	-	-	-	-	-	11	11	11	11	11
063	90B5	130	165	200	-	24	24	24	24	24	24	-	-	-	-	-
	90B14	95	115	140												
	80B5	130	165	200	-	19	19	19	19	19	19	19	19	19	-	-
	80B14	80	100	120												
	71B5	110	130	160	-	-	-	-	-	-	-	14	14	14	14	14
	71B14	70	85	105												
075	100/112B5	180	215	250	-	28	28	28	-	-	-	-	-	-	-	-
	100/112B14	110	130	160												
	90B5	130	165	200	-	24	24	24	24	24	24	24	-	-	-	-
	90B14	95	115	140												
	80B5	130	165	200	-	-	-	-	19	19	19	19	19	19	19	19
	80B14	80	100	120												
	71B5	110	130	160	-	-	-	-	-	-	-	-	14	14	14	14
090	100/112B5	180	215	250	-	28	28	28	28	28	28	-	-	-	-	-
	100/112B14	110	130	160												
	90B5	130	165	200	-	24	24	24	24	24	24	24	24	24	-	-
	90B14	95	115	140												
	80B5	130	165	200	-	-	-	-	-	-	-	19	19	19	19	19
	80B14	80	100	120												
110	132B5	230	265	300	-	38*	38*	38*	38*	-	-	-	-	-	-	-
	100/112B5	180	215	250	-	28	28	28	28	28	28	28	28	28	-	-
	90B5	130	165	200	-	-	-	-	-	24	24	24	24	24	24	24
	80B5	130	165	200	-	-	-	-	-	-	-	-	-	-	19	19
130	132B5	230	265	300	-	38*	38*	38*	38*	38*	38*	38*	-	-	-	-
	100/112B5	180	215	250	-	-	-	-	-	28	28	28	28	28	28	28
	90B5	130	165	200	-	-	-	-	-	-	-	-	-	-	24	24
150	160B5	250	300	350	-	42	42	42	42	42	-	-	-	-	-	-
	132B5	230	265	300	-	-	-	-	38	38	38	38	38	38	-	-
	100/112B5	180	215	250	-	-	-	-	-	-	-	-	28	28	28	28

* Low profile key supplied by Emag Ltd

All dimensions in millimetres unless otherwise stated.

EMAW		PC 063		PC 071		PC 080			PC 090		
		105 / 11 i = 3	105 / 14 i = 3	120 / 14 i = 3	120 / 19 i = 3	160 / 19 i = 3	160 / 24 i = 3	160 / 28 i = 3	160 / 19 i = 2,42	160 / 24 i = 2,42	160 / 28 i = 2,42
040	25										
	30										
	40										
	50										
	60										
	80										
	100										
050	25										
	30										
	40										
	50										
	60										
	80										
	100										
063	25										
	30										
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	60										
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075	25										
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	50										
	60										
	80										
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090	25										
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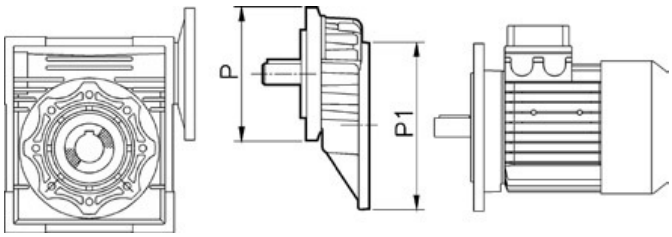
	40										
	50										
	60										
	80										
	100										
130	25										
	30										
	40										
	50										
	60										
	80										
	100										



	P1	P	(P)
PC 063	63B5-140 /11		
PC 071	71B5-160 /14	120 / 14	(120 / 19)
PC 080	80B5-200 /19	160 / 14	(160 / 24) (160 / 28)
PC 090	90B5-200 /24	160 / 24	(160 / 19) (160 / 128)

(..) Only on request

All dimensions in millimetres unless otherwise stated.

input n1 = 1400 rev/min		Geared Motors					Gear Units			
i	output n2 = rev/min	Size	P1 (kW)	Motor Frame	M2 (Nm)	f.s.	Size	M2 (Nm)	Fr1 (N)	Fr2 (N)
7.5	186.7	EMAW025	0.09	56B4	3.9	2.8	EMW025	10	118	503
10	140.0		0.09	56B4	5.1	2.4		10	118	553
15	93.3		0.09	56B4	7.3	1.6		11	118	633
20	70.0		0.09	56B4	9.0	1.3		11	118	697
30	46.7		0.09	56B4	12	1.1		12	118	798
40	35.0		0.09	56B4	15	0.9		12	118	878
50	28.0		0.06	56A4	12	0.9		10	118	946
60	23.3		0.06	56A4	14	0.7		10	118	1006
7.5	186.7	EMAW030	0.22	63C4	10	1.9	EMW030	18	150	683
10	140.0		0.22	63C4	12	1.5		18	169	752
15	93.3		0.22	63C4	17	1.0		18	169	861
20	70.0		0.22	63C4	22	0.8		18	190	948
25	56.0		0.18	63B4	21	1.0		21	210	1021
30	46.7		0.18	63B4	24	0.8		20	210	1085
40	35.0		0.12	63A4	19	0.9		18	210	1194
50	28.0		0.12	63A4	23	0.8		17	210	1286
60	23.3		0.09	56B4	19	0.9		16	210	1367
80	17.5		0.06	56A4	14	0.9		13	210	1504
7.5	186.7	EMAW040	0.55	71C4	24	1.6	EMW040	40	294	1315
10	140.0		0.55	71C4	32	1.3		40	331	1447
15	93.3		0.55	71C4	46	0.9		40	331	1657
20	70.0		0.37	71B4	39	1.0		39	350	1824
25	56.0		0.37	71B4	47	0.8		38	350	1964
30	46.7		0.37	71B4	53	0.8		45	350	2087
40	35.0		0.25	71A4	44	0.9		41	350	2298
50	28.0		0.22	63C4	47	0.8		39	350	2475
60	23.3		0.18	63B4	43	0.8		36	350	2630
80	17.5		0.12	63A4	34	1.0		33	350	2895
100	14.0		0.12	63A4	38	0.8		29	350	3118
7.5	186.7	EMAW050	0.92	80C4	41	1.7	EMW050	71	401	1805
10	140.0		0.92	80C4	54	1.3		72	490	1987
15	93.3		0.92	80C4	77	1.0		74	490	2274
20	70.0		0.75	80B4	81	0.9		73	490	2503
25	56.0		0.55	80A4	71	1.0		70	490	2696
30	46.7		0.55	80A4	81	1.0		84	490	2865
40	35.0		0.37	71B4	68	1.1		76	490	3153
50	28.0		0.37	71B4	80	0.9		73	490	3397
60	23.3		0.37	71B4	89	0.8		68	490	3610
80	17.5		0.25	71A4	72	0.9		65	490	3973
100	14.0		0.18	63B4	60	0.9		55	490	4280

All dimensions in millimetres unless otherwise stated.

input n1 = 1400 rev/min		Geared Motors					Gear Units			
i	output n2 = rev/min	Size	P1 (kW)	Motor Frame	M2 (Nm)	f.s.	Size	M2 (Nm)	Fr1 (N)	Fr2 (N)
7.5	186.7	EMAW063	1.84	90LL4	83	1.5	EMW063	128	500	2359
10	140.0		1.84	90LL4	109	1.2		130	571	2597
15	93.3		1.84	90LL4	156	0.9		140	615	2973
20	70.0		1.5	90LL4	166	0.8		135	667	3272
25	56.0		1.1	90S4	146	0.9		130	700	3524
30	46.7		1.1	90S4	167	1.0		160	700	3745
40	35.0		0.92	80C4	176	0.8		145	700	4122
50	28.0		0.55	80A4	124	1.1		135	700	4440
60	23.3		0.55	80A4	140	0.9		130	700	4719
80	17.5		0.37	71B4	115	1.1		122	700	5193
100	14.0		0.37	71B4	129	0.9		118	700	5595
7.5	186.7	EMAW075	4	112M4	182	1.0	EMW075	185	700	2785
10	140.0		4	112M4	240	0.8		195	830	3065
15	93.3		3	100L4	261	0.8		200	851	3509
20	70.0		1.84	90LL4	206	1.0		210	980	3862
25	56.0		1.84	90LL4	251	0.8		200	980	4160
30	46.7		184	90LL4	286	0.8		230	980	4421
40	35.0		1.1	90S4	216	1.0		220	980	4865
50	28.0		0.92	80C4	217	1.0		210	980	5241
60	23.3		0.92	80C4	245	0.8		200	980	5569
80	17.5		0.55	80A4	180	1.1		190	980	6130
100	14.0		0.55	80A4	206	0.9		180	980	6603
7.5	186.7	EMAW090	4.8	112MS4	221	1.3	EMW090	290	900	3081
10	140.0		4.8	112MS4	291	1.1		310	1082	3391
15	93.3		4.8	112MS4	422	0.9		360	1257	3882
20	70.0		4	112M4	458	0.8		355	1270	4273
25	56.0		3	100LB4	420	0.8		340	1270	4603
30	46.7		3	100LB4	479	0.9		410	1270	4891
40	35.0		1.84	90LL4	377	1.0		360	1270	5383
50	28.0		1.84	90LL4	452	0.8		340	1270	5799
60	23.3		1.5	90LL4	424	0.8		320	1270	6163
80	17.5		0.92	80C4	316	0.9		285	1270	6783
100	14.0		0.75	80B4	302	0.9		270	1270	7306

All dimensions in millimetres unless otherwise stated.

input n1 = 1400 rev/min		Geared Motors					Gear Units			
i	output n2 = rev/min	Size	P1 (kW)	Motor Frame	M2 (Nm)	f.s.	Size	M2 (Nm)	Fr1 (N)	Fr2 (N)
7.5	186.7	EMAW110	9.2	132M4	424	1.3	EMW110	552	1200	3893
10	140.0		7.5	132L4	455	1.3		598	1463	4285
15	93.3		7.5	132L4	660	1.0		656	1604	4905
20	70.0		5.5	132S4	638	1.0		644	1700	5399
25	56.0		4.8	112MS4	688	1.0		679	1700	5816
30	46.7		4	112M4	647	1.1		725	1700	6181
40	35.0		3	100LB4	638	1.1		702	1700	6803
50	28.0		3	100LB4	767	0.9		660	1700	7328
60	23.3		2.2	100LA4	648	1.0		616	1700	7787
80	17.5		1.5	90L4	548	0.9		515	1700	8571
100	14.0		1.1	90S4	473	1.0		483	1700	9232
7.5	186.7	EMAW130	9.2	132M4	428	1.8	EMW130	750	1500	5092
10	140.0		9.2	132M4	559	1.5		820	1845	5605
15	93.3		9.2	132M4	819	1.1		920	2070	6416
20	70.0		9.2	132M4	1079	0.8		910	2100	7062
25	56.0		9.2	132M4	1318	0.7		930	2100	7607
30	46.7		7. 5	132L4	1228	0.8		1040	2100	8084
40	35.0		7.5	132L4	1596	0.7		1050	2100	8897
50	28.0		4.8	112MS4	1228	0.8		980	2100	9584
60	23.3		4	112M4	1179	0.8		900	2100	10185
80	17.5		3	100LB4	1113	0.8		840	2100	11210
100	14.0		1.84	90LL4	803	0.9		740	2100	12076
7.5	186.7	EMAW150	15	160L4	698	1.7	EMW150	1200	1950	6962
10	140.0		15	160L4	921	1.3		1240	2267	7663
15	93.3		15	160L4	1351	0.9		1250	2285	8771
20	70.0		15	160L4	1760	0.7		1300	2674	9654
25	56.0		11	160M4	1576	0.8		1200	2800	10400
30	46.7		9. 2	132M4	1563	0.8		1200	2800	11051
40	35.0		9.2	132M4	1958	0.8		1550	2800	12163
50	28.0		5.5	132S4	1426	1.0		1400	2800	13103
60	23.3		5.5	132S4	1643	0.8		1260	2800	13924
80	17.5		4	112M4	1484	0.8		1150	2800	15325
100	14.0		3	100LB4	1310	0.8		1000	2800	16508

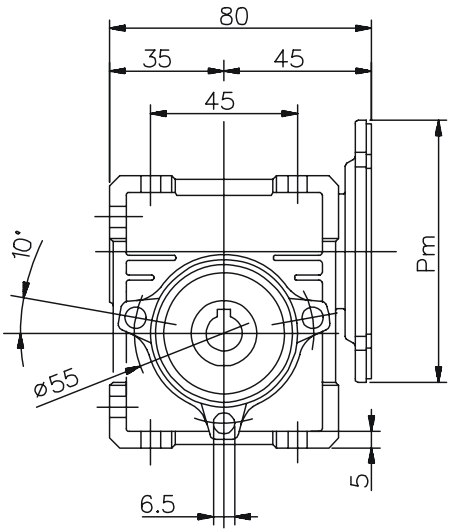
All dimensions in millimetres unless otherwise stated.

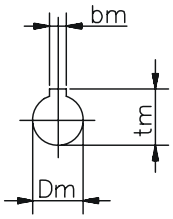
input n1 = 1400 rev/min		Geared Motors					
i	output n2 = rev/min	Size	P1 (kW)	Motor Frame	M2 (Nm)	f.s.	Fr2 (N)
75	18.7	PC063+EMAW040	0.18	63B4	64	0.8	2833
90	15.6		0.18	63B4	70	0.8	3011
120	11.7		0.18	63B4	85	0.6	3314
150	9.3		0.12	63A4	66	0.7	3490
180	7.8		0.12	63A4	74	0.6	3490
240	5.8		0.12	63A4	86	0.5	3490
75	18.7	PC063+EMAW050	0.22	63C4	78	1.2	3889
90	15.6		0.22	63C4	86	1.2	4132
120	11.7		0.22	63C4	106	0.9	4548
150	9.3		0.18	63B4	101	0.9	4840
180	7.8		0.18	63B4	113	0.7	4840
240	5.8		0.18	63B4	133	0.6	4840
300	4.7		0.12	63A4	98	0.7	4840
120	11.7	PC063+EMAW063	0.22	63C4	110	1.7	5945
150	9.3		0.22	63C4	126	1.4	6270
180	7.8		0.22	63C4	143	1.1	6270
240	5.8		0.18	63B4	139	1.0	6270
300	4.7		0.18	63B4	155	0.8	6270
75	18.7	PC071+EMAW050	0.25	71A4	88	1.0	3889
90	15.6		0.25	71A4	98	1.1	4132
120	11.7		0.25	71A4	121	0.8	4548
150	9.3		0.25	71A4	141	0.6	4840
75	18.7	PC071+EMAW063	0.25	71A4	91	1.8	5083
90	15.6		0.55	71C4	219	0.9	5401
120	11.7		0.37	71B4	185	1.0	5945
150	9.3		0.37	71B4	212	0.8	6270
180	7.8		0.25	71A4	163	1.0	6270
240	5.8		0.25	71A4	192	0.7	6270
300	4.7		0.25	71A4	215	0.6	6270
75	18.7	PC071+EMAW075	0.55	71C4	205	1.2	6000
90	15.6		0.55	71C4	230	1.3	6375
120	11.7		0.55	71C4	284	1.0	7017
150	9.3		0.37	71B4	223	1.1	7380
180	7.8		0.37	71B4	254	0.9	7380
240	5.8		0.25	71A4	201	1.1	7380
300	4.7		0.25	71A4	230	0.9	7380
120	11.7	PC071+EMAW090	0.55	71C4	297	1.6	7764
150	9.3		0.55	71C4	355	1.3	8180
180	7.8		0.55	71C4	398	1.0	8180
240	5.8		0.37	71B4	321	1.1	8180
300	4.7		0.37	71B4	371	0.9	8180

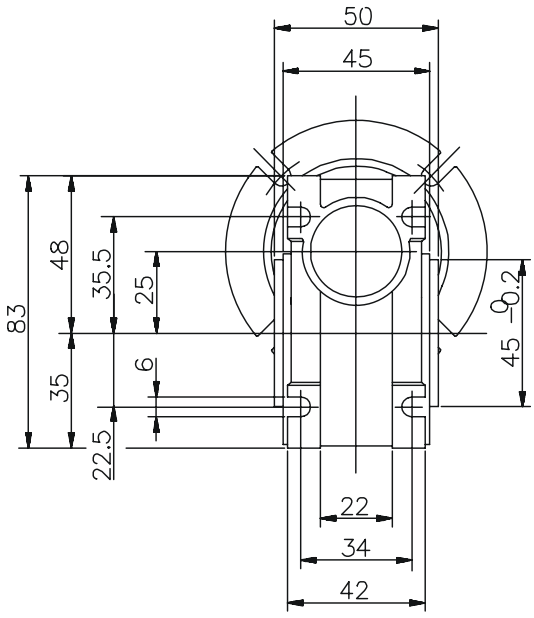
All dimensions in millimetres unless otherwise stated.

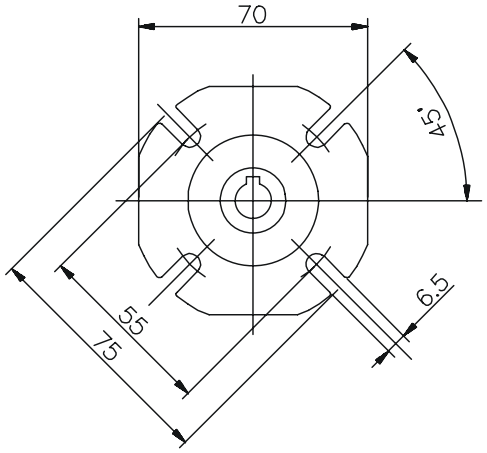
input n1 = 1400 rev/min		Geared Motors					
i	output n2 = rev/min	Size	P1 (kW)	Motor Frame	M2 (Nm)	f.s.	Fr2 (N)
75	18.7	PC080+EMAW075	0.92	80C4	344	0.7	6000
90	15.6		0.92	80C4	384	0.8	6375
120	11.7		0.55	80A4	284	1.0	7017
150	9.3		0.55	80A4	332	0.8	7380
180	7.8		0.55	80A4	378	0.6	7380
75	18.7	PC080+EMAW090	0.92	80C4	353	1.2	6638
90	15.6		0.92	80C4	401	1.4	7054
120	11.7		0.92	80C4	497	1.0	7764
150	9.3		0.92	80C4	593	0.8	8180
180	7.8		0.75	80B4	543	0.7	8180
75	18.7	PC080+EMAW110	0.92	80C4	367	2.5	8388
120	11.7		0.92	80C4	527	1.8	9811
150	9.3		0.92	80C4	621	1.4	10320
180	7.8		0.92	80C4	712	1.1	10320
240	5.8		0.75	80B4	700	0.9	10320
300	4.7		0.55	80A4	597	1.0	10320
75	18.7	PC080+EMAW130	0.92	80C4	367	3.3	10971
90	15.6		0.92	80C4	412	3.4	11659
120	11.7		0.92	80C4	527	2.5	12832
150	9.3		0.92	80C4	631	1.9	13500
180	7.8		0.92	80C4	712	1.5	13500
240	5.8		0.92	80C4	874	1.1	13500
300	4.7		0.92	80C4	998	0.9	13500
60.5	23.1	PC090+EMAW110	1.84	90LL4	592	1.5	7809
72.6	19.3		1.84	90LL4	656	1.5	8298
97	14.5		1.84	90LL4	850	1.1	9133
121.0	11.6		1.84	90LL4	1002	0.9	9838
145	9.6		1.5	90L4	936	0.8	10320
193.6	7.2		1.1	90S4	828	0.8	10320
242.0	5.8		1.1	90S4	962	0.6	10320
60.5	23.1	PC090+EMAW130	1.84	90LL4	592	2.0	10213
72.6	19.3		1.84	90LL4	665	2.1	10853
97	14.5		1.84	90LL4	850	1.5	11945
121.0	11.6		1.84	90LL4	1018	1.2	12868
145.2	9.6		1.84	90LL4	1148	0.9	13500
193.6	7.2		1.5	90L4	1149	0.8	13500
242	5.8		1.1	90S4	962	0.9	13500

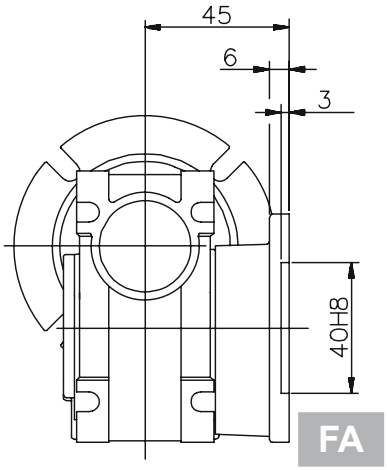
All dimensions in millimetres unless otherwise stated.











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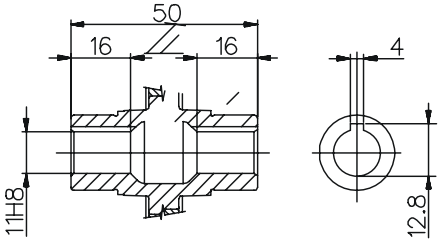

Weight without motor ~ 0.7 kg

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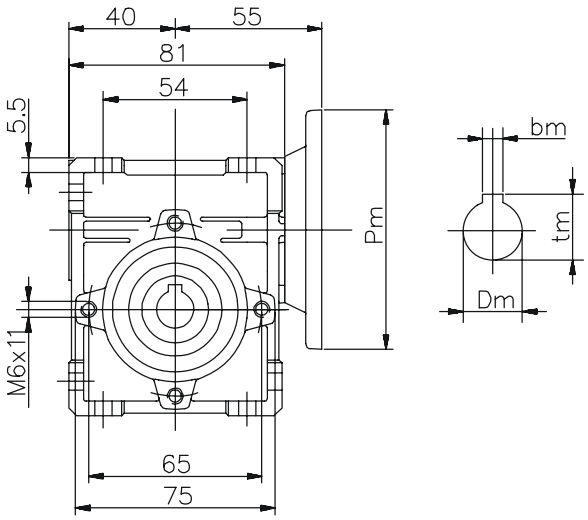
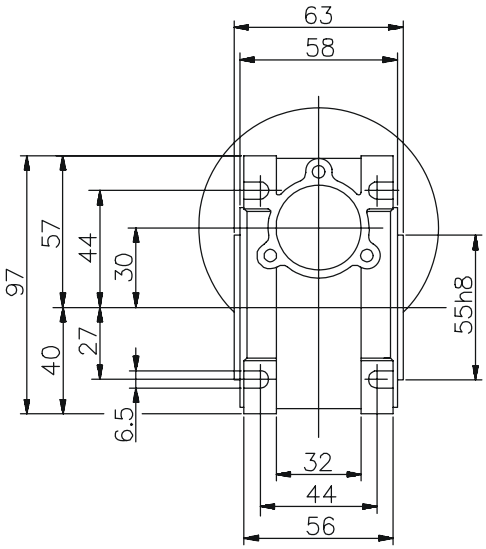
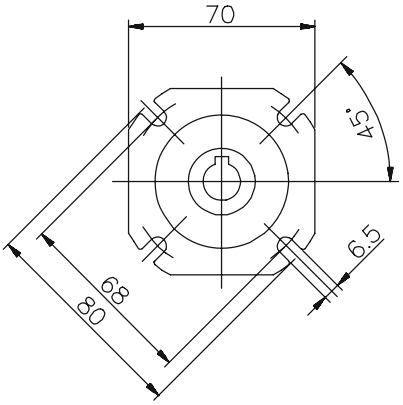
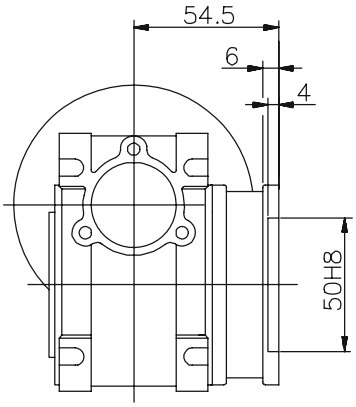


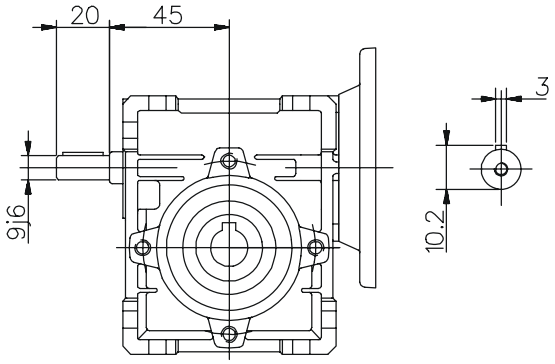


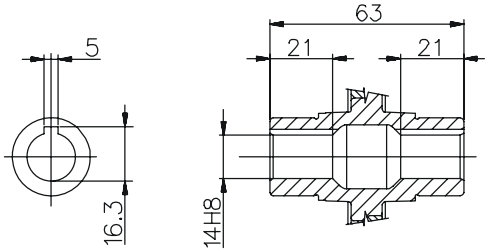




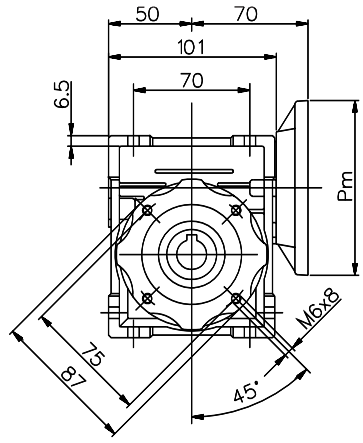
Weight without motor ~1.2 kg

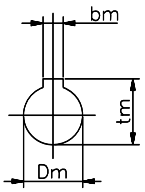
FA

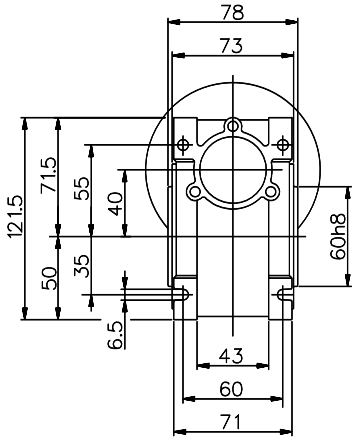


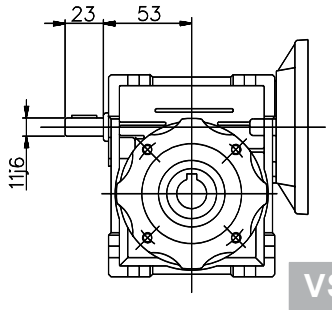


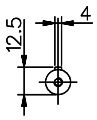
VS











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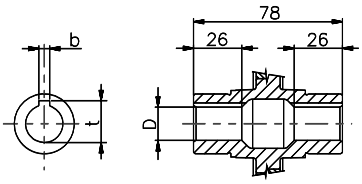

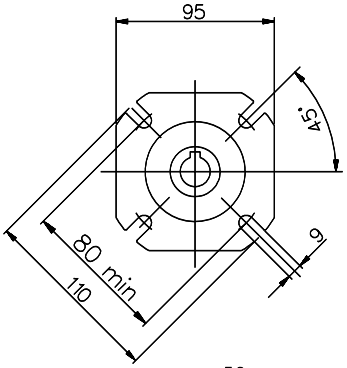

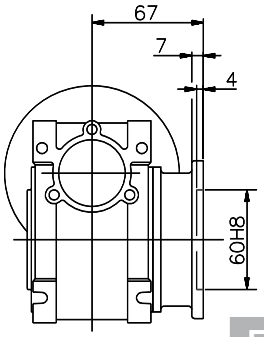

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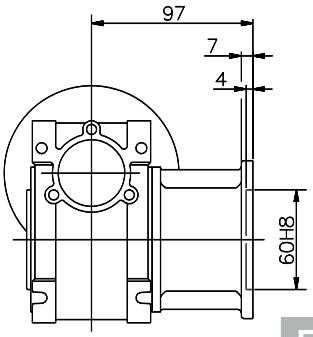

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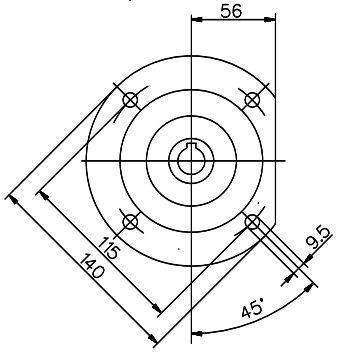

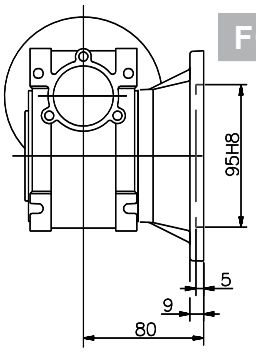

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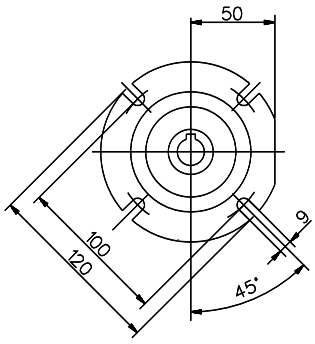

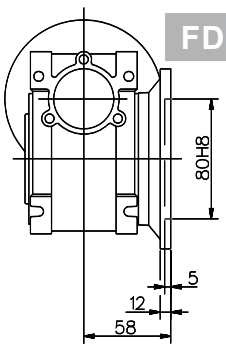

FD

Output		
D H8	**b**	**t**
18	6	20,8
(19)	(6)	(21,8)

(..) Only on request - Weight without motor ~2.3 kg

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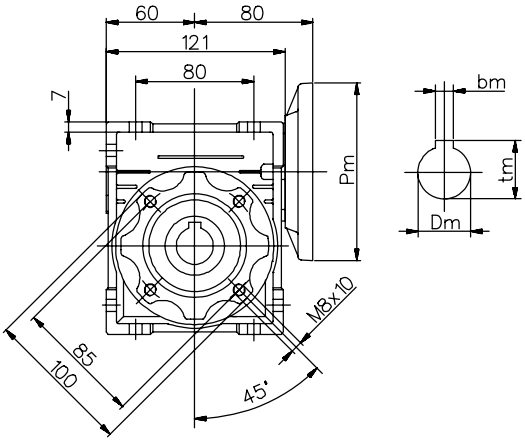

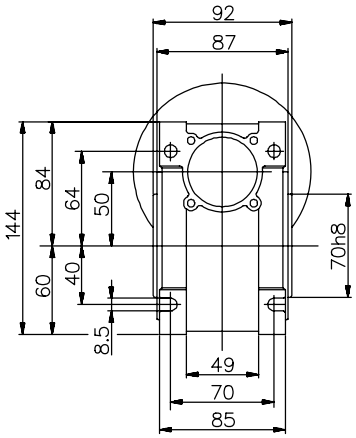

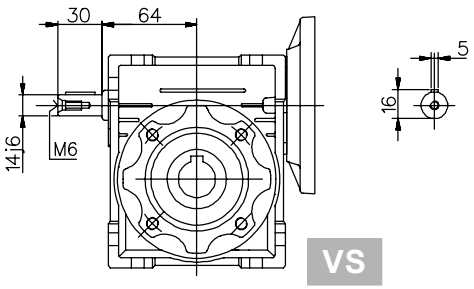

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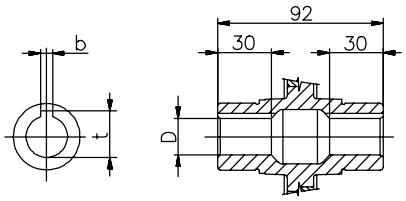

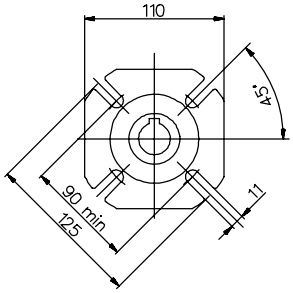

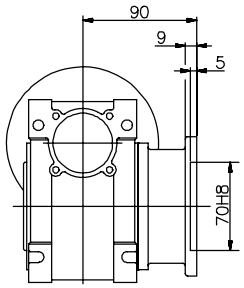

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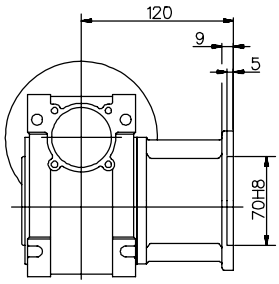

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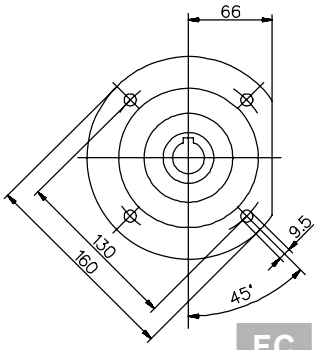

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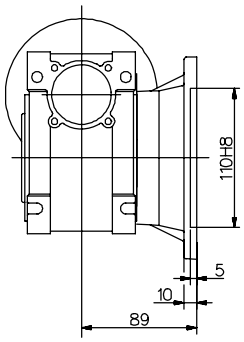

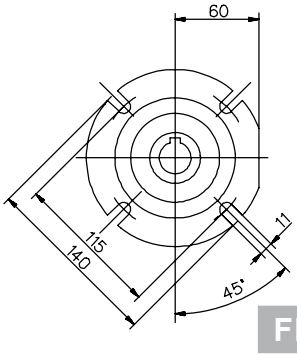

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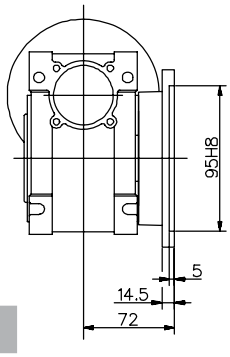
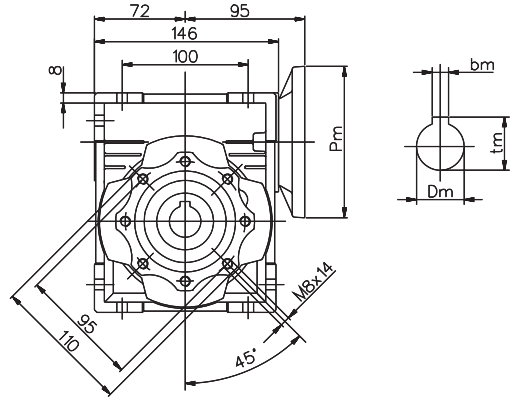
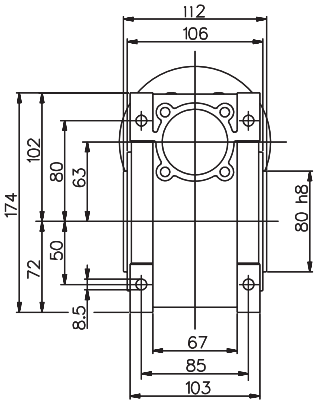
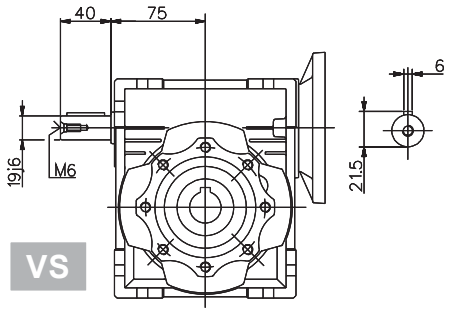


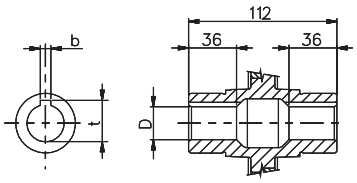
Output		
D H8	**b**	**t**
25	8	28,3
(24)	(8)	(27,3)

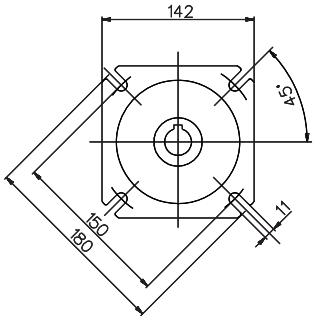
(..) Only on request - Weight without motor ~3.5 kg

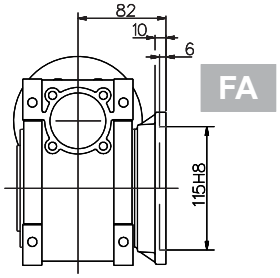


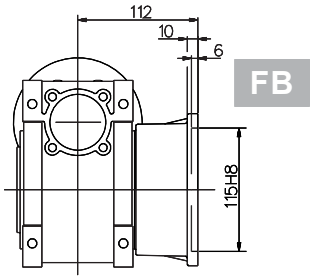


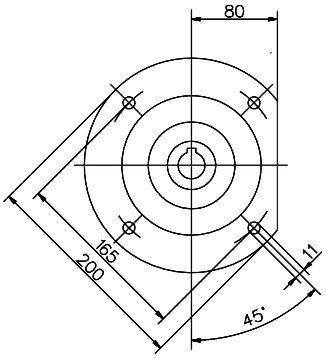


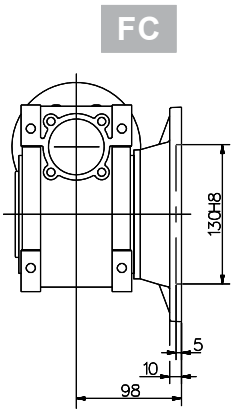


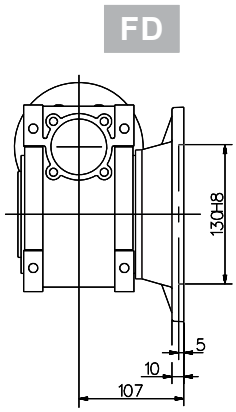


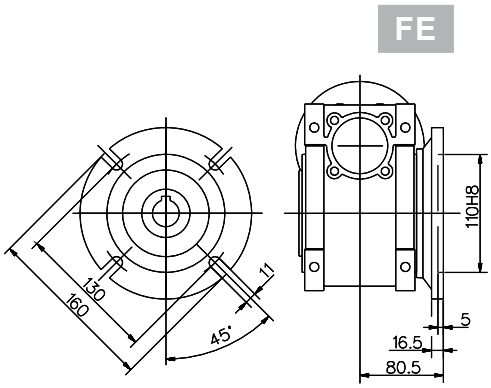












Output		
D H8	**b**	**t**
25	8	28,3
(28)	(8)	(31,3)

(..) Only on request - Weight without motor ~6.2 kg

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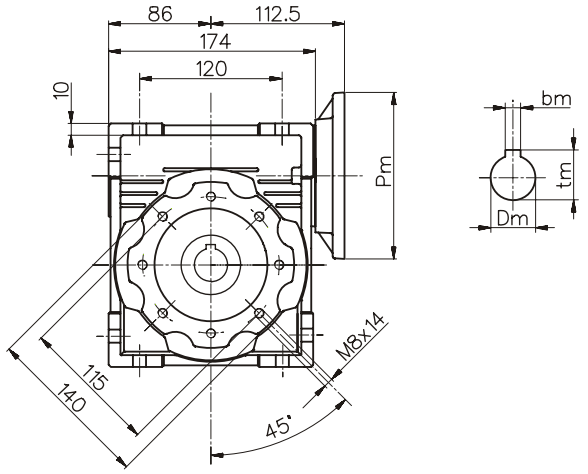
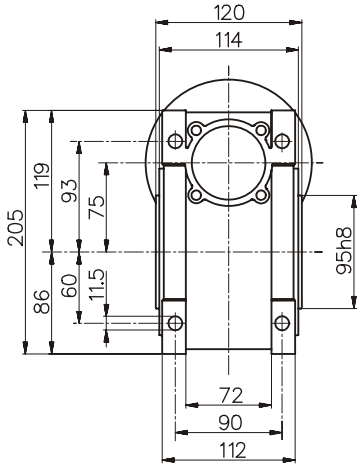
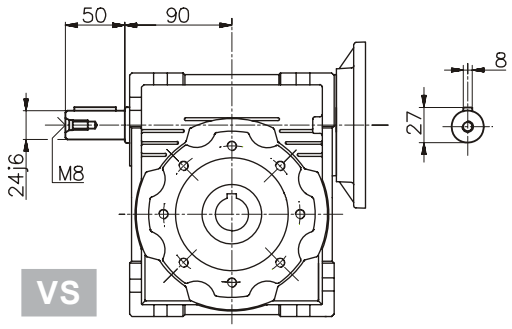
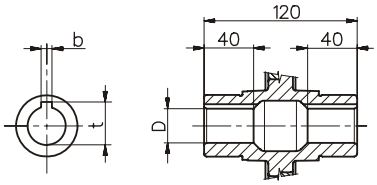
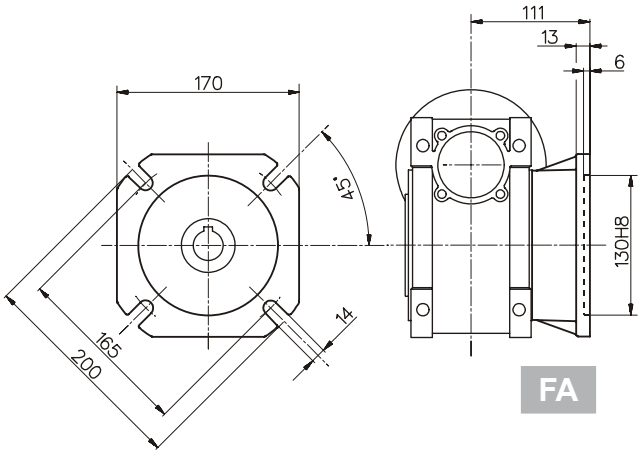
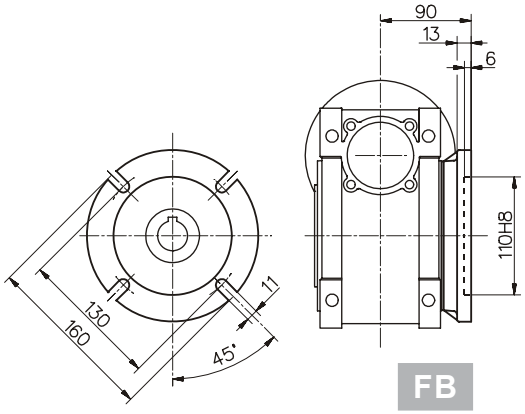






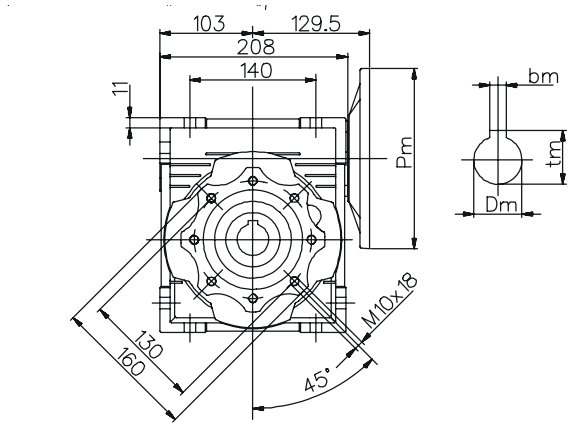


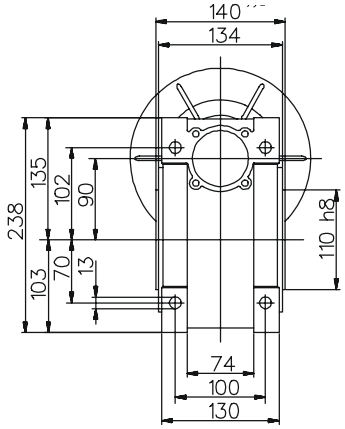


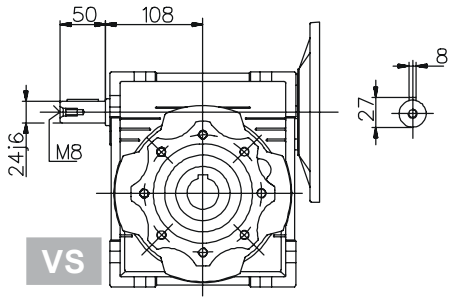


Output		
D H8	**b**	**t**
28	8	31,3
(35)	(10)	(38,3)

(..) Only on request - Weight without motor ~9 kg







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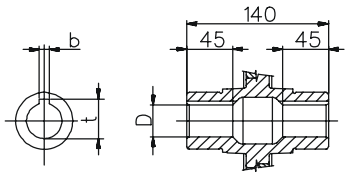

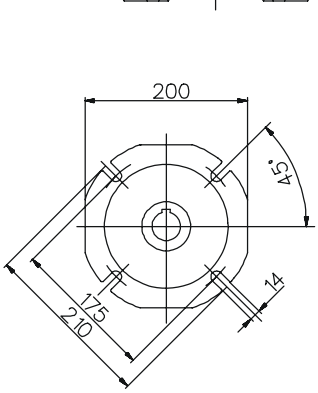

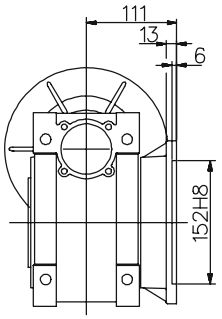

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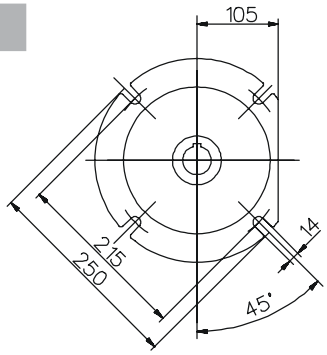
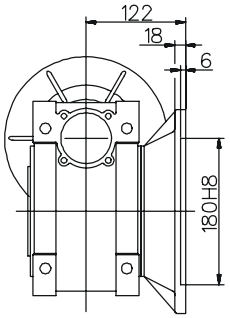
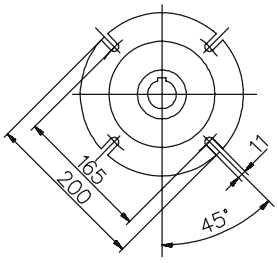
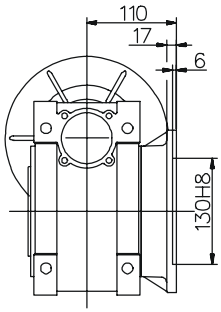




FB





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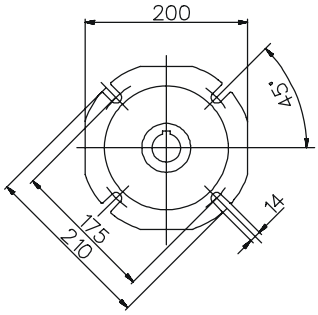

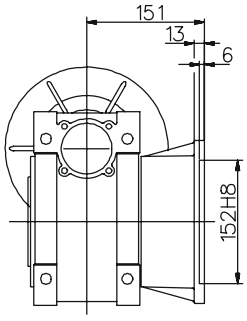

FD

Output		
D H8	**b**	**t**
35	10	38,3
(38)	(10)	(41,3)

(..) Only on request - Weight without motor ~13 kg

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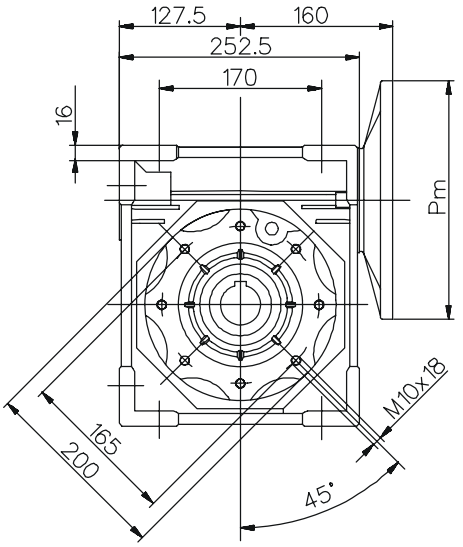
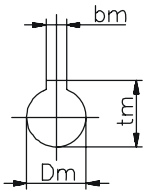
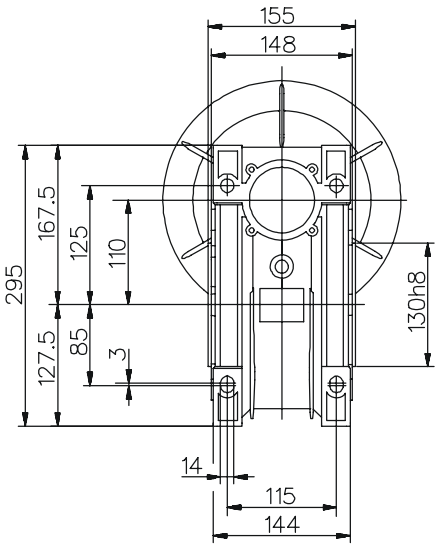
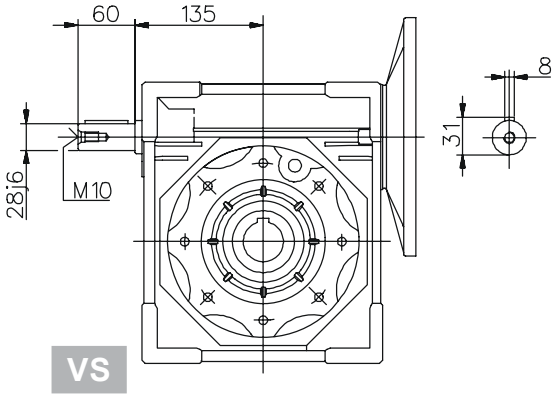
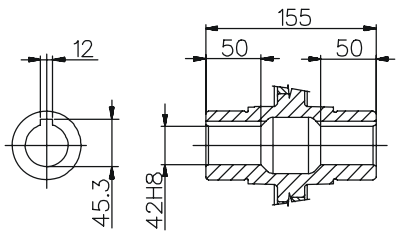


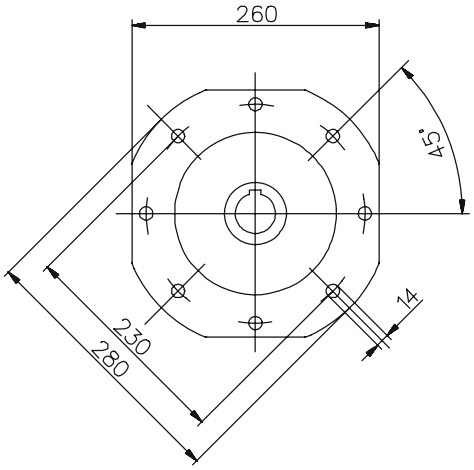


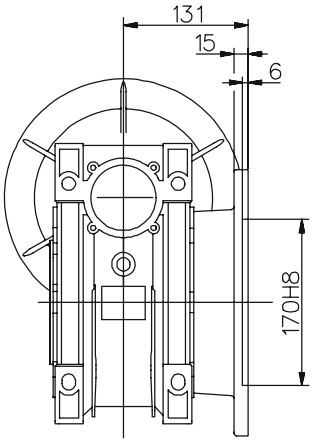




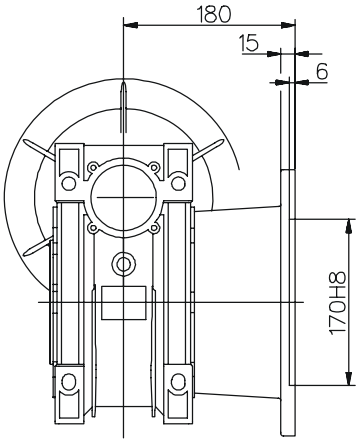
VS





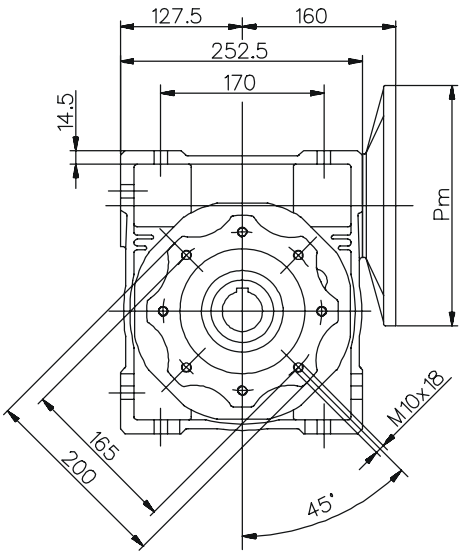


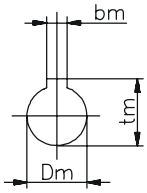
FA

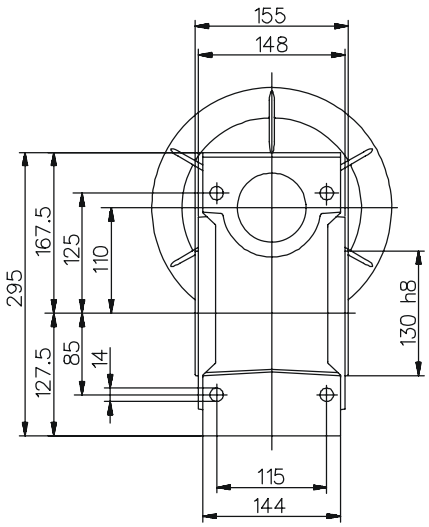


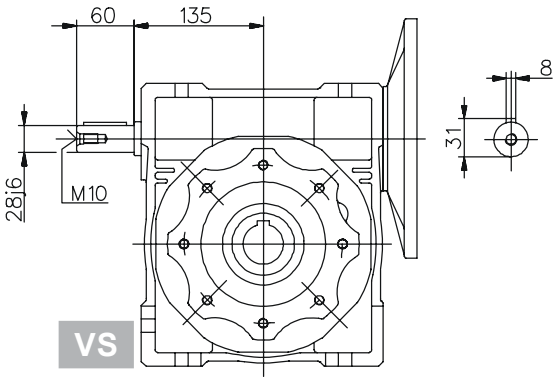
FB

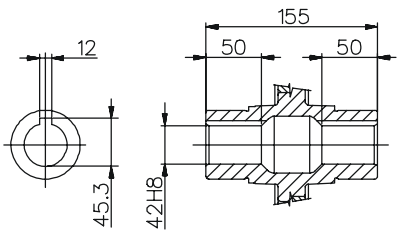
- Weight without motor ~21 kg

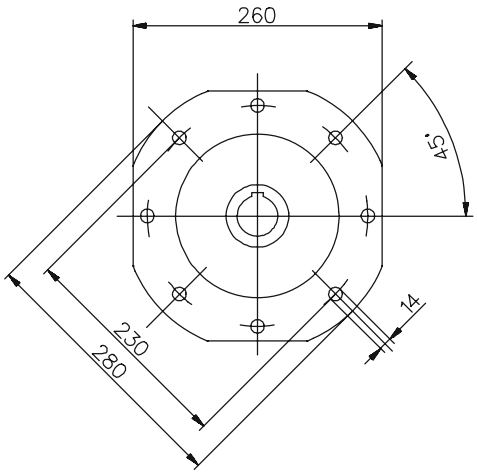


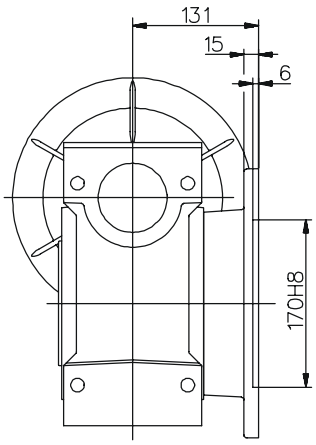


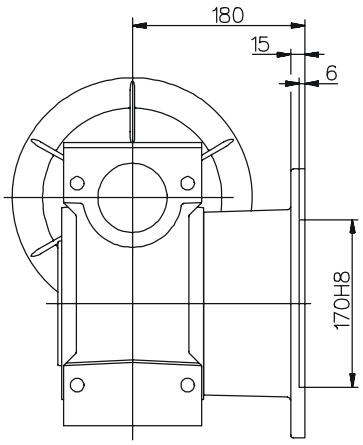












- Weight without motor ~35 kg

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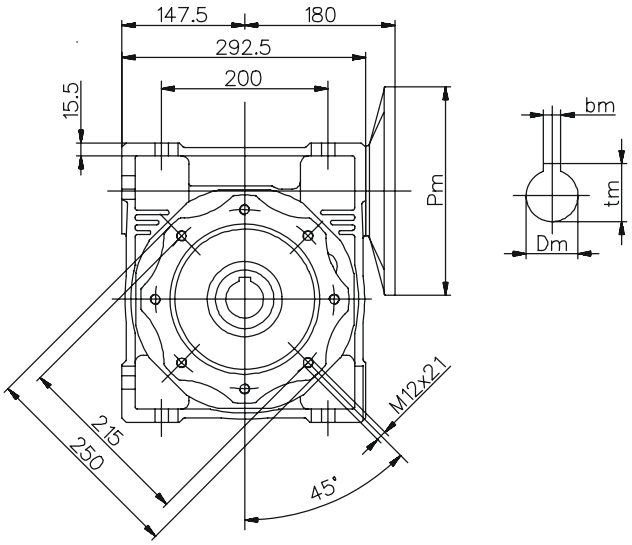
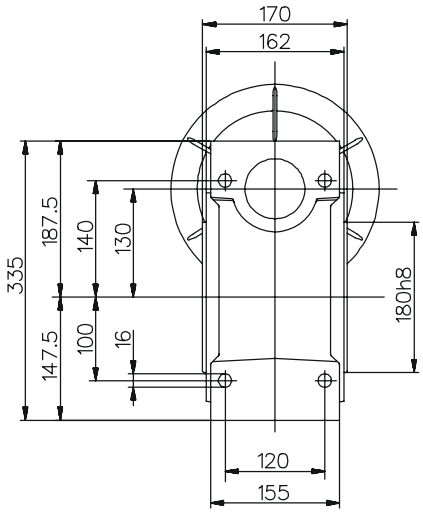
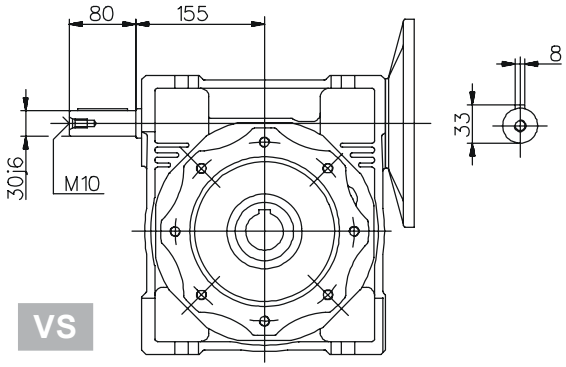
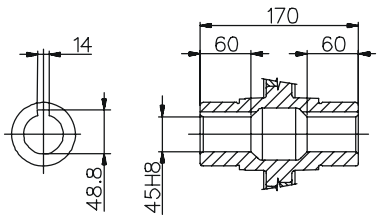
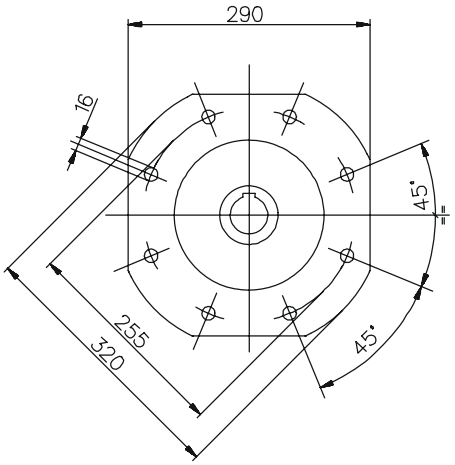


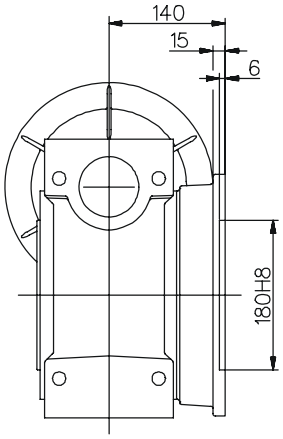




VS

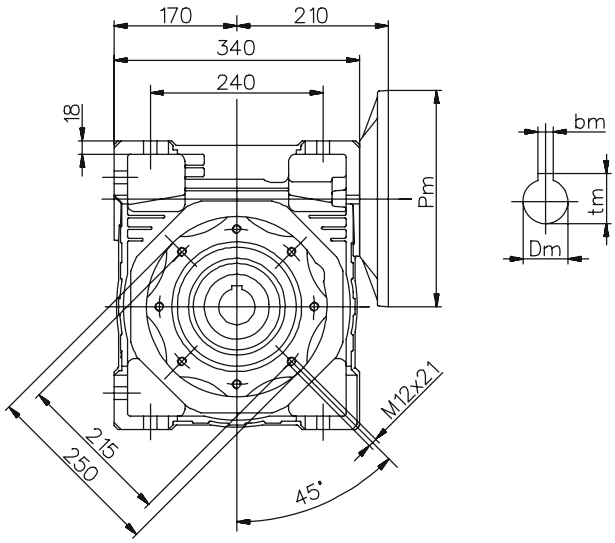


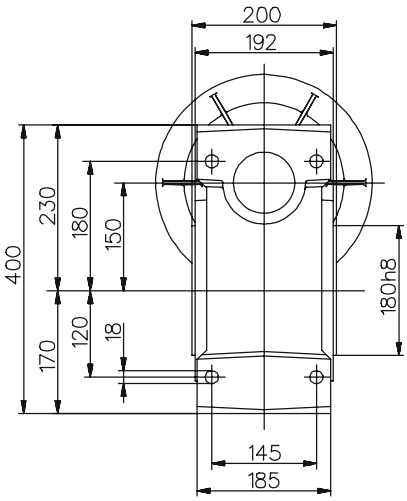


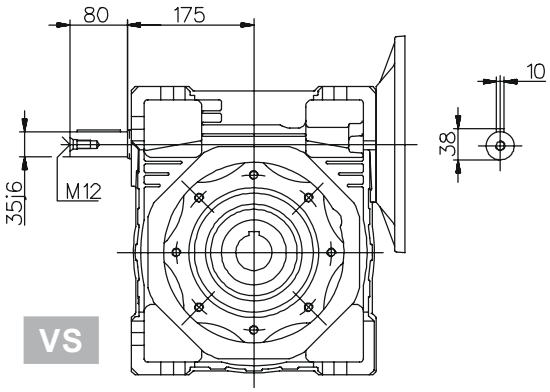


FA

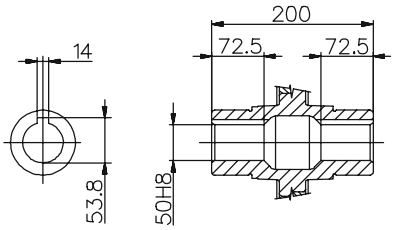
- Weight without motor ~48 kg

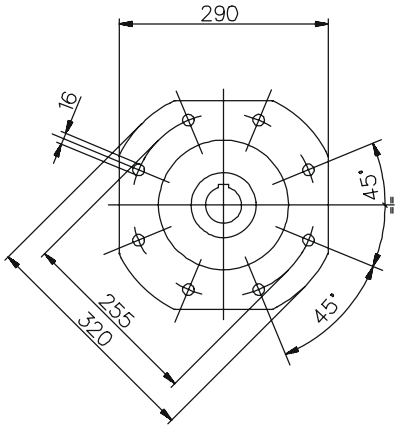


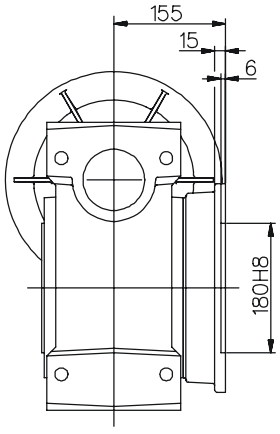




VS







FA

- Weight without motor ~84 kg

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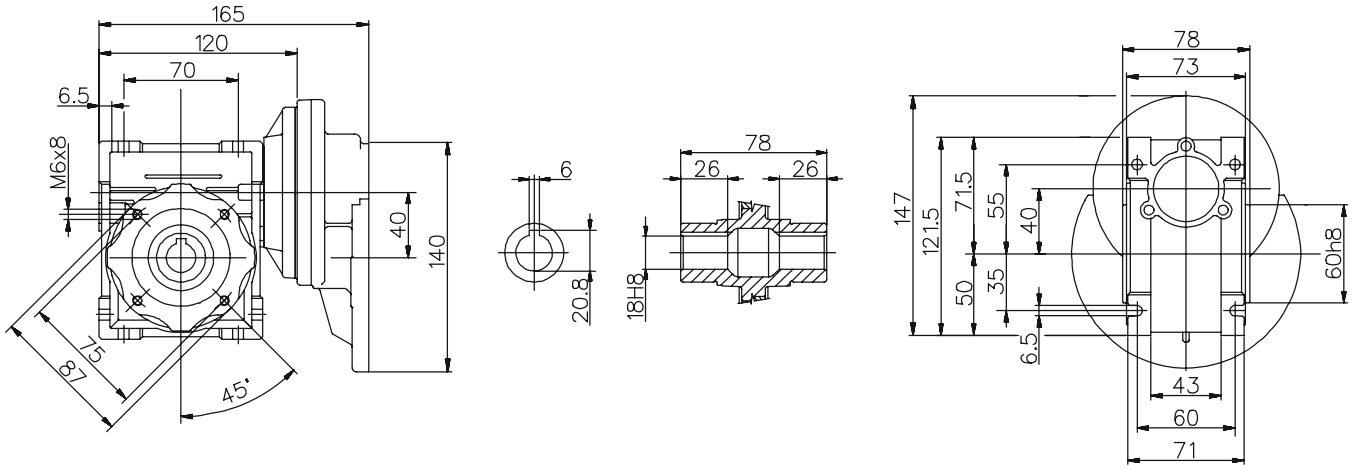
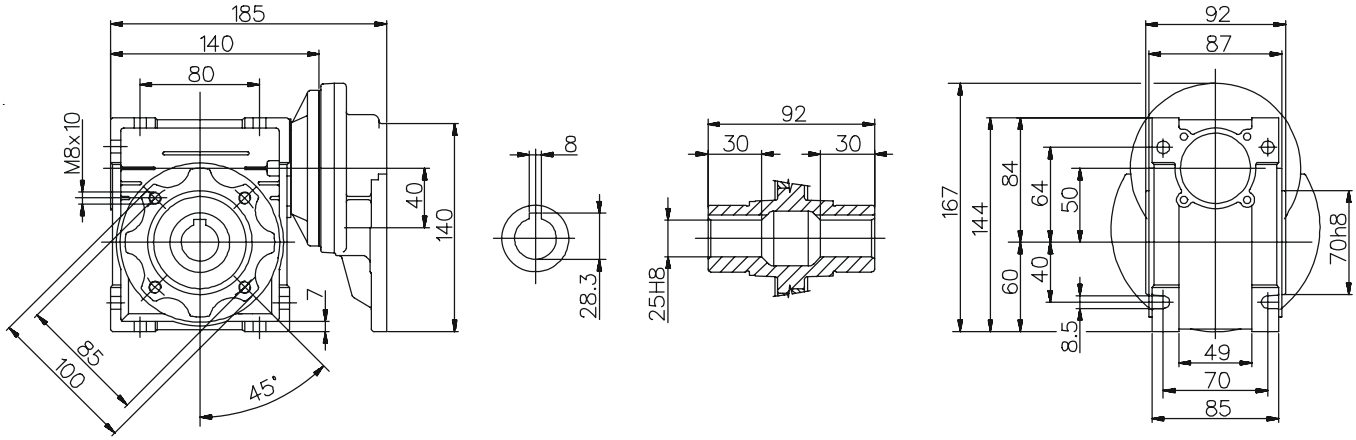
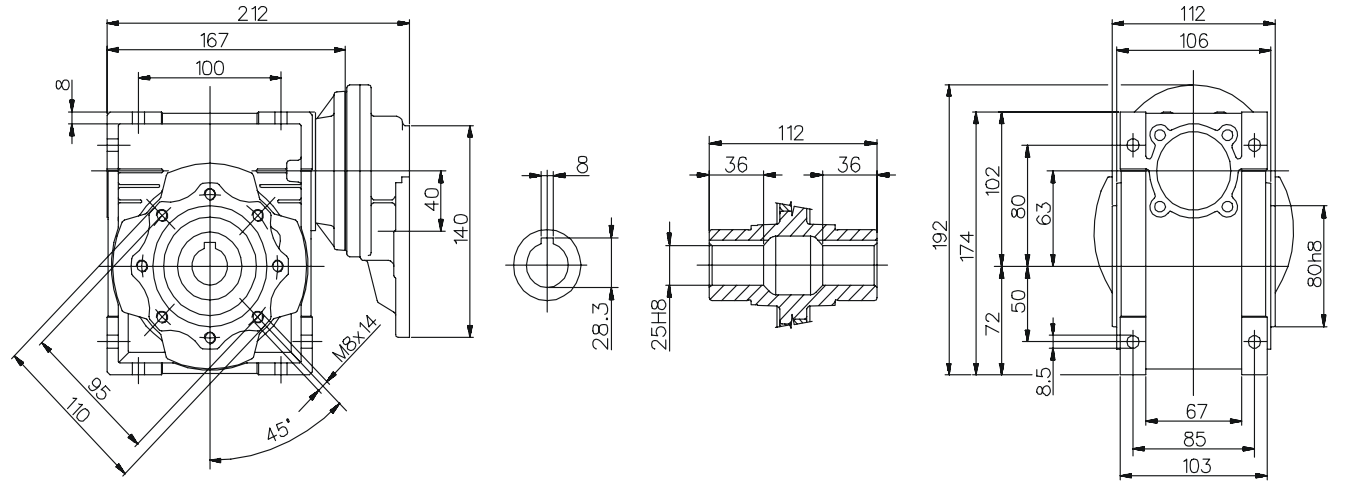
PC 063 - EMAW040 Dimensions



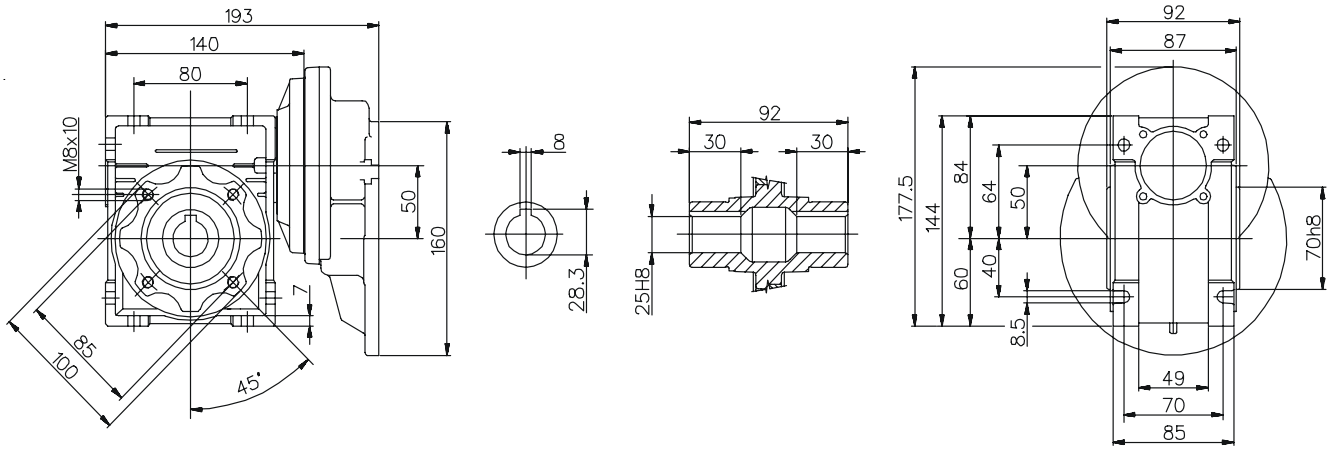
PC 063 - EMAW050 Dimensions



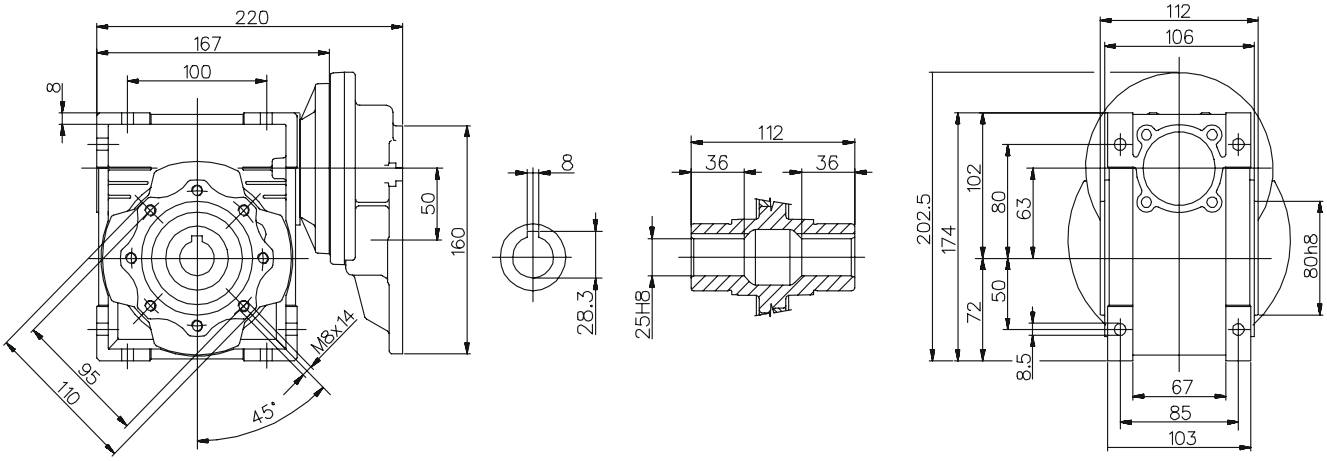
PC 063 - EMAW063 Dimensions



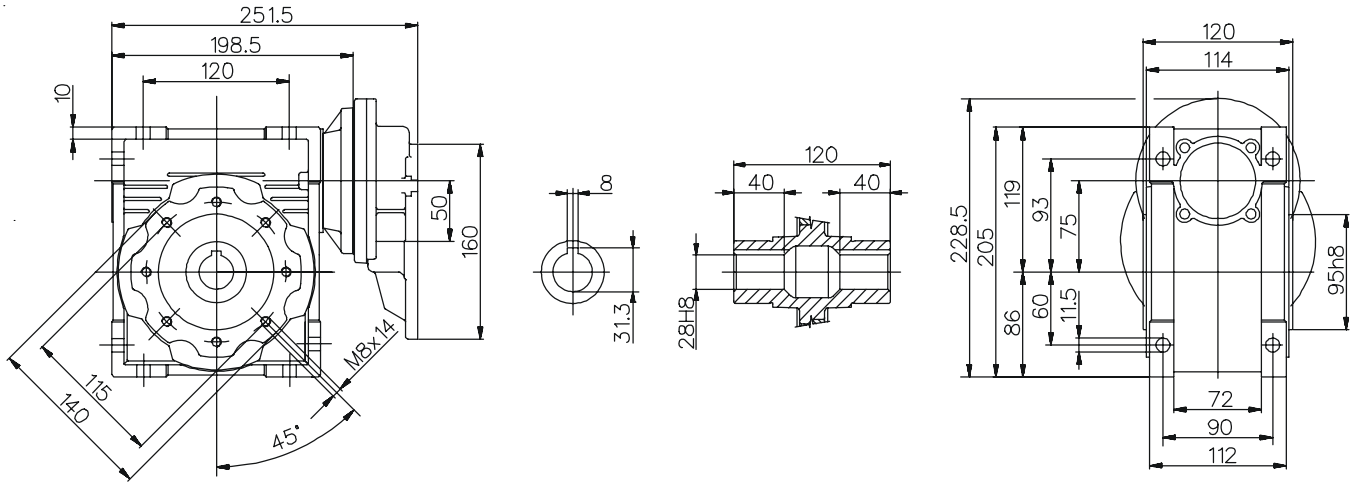
PC 071 - EMAW050 Dimensions



PC 071 - EMAW050 Dimensions



PC 071 - EMAW075 Dimensions



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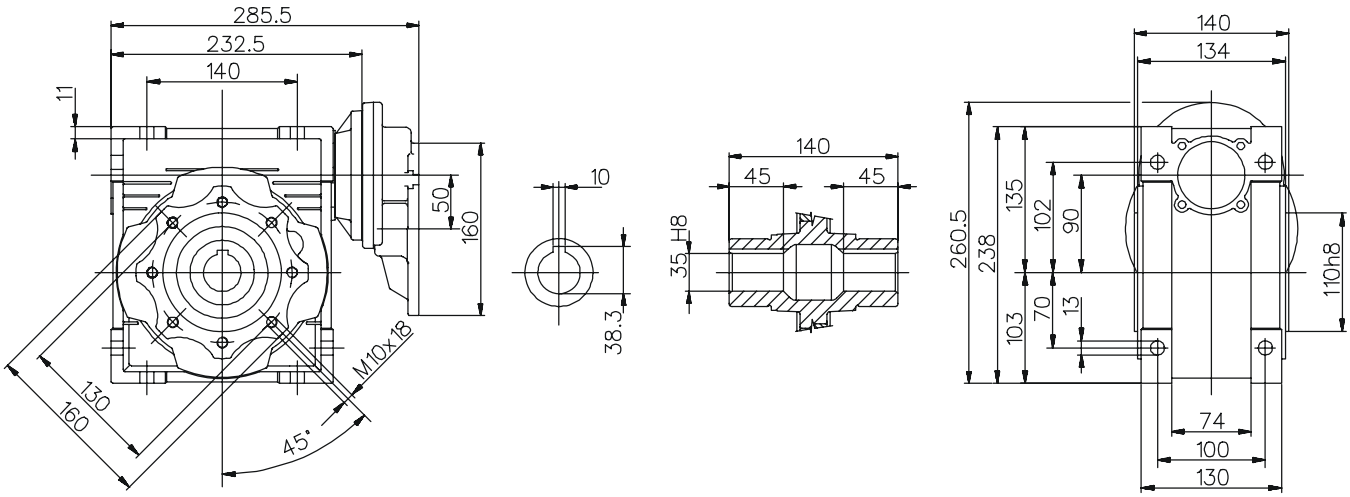
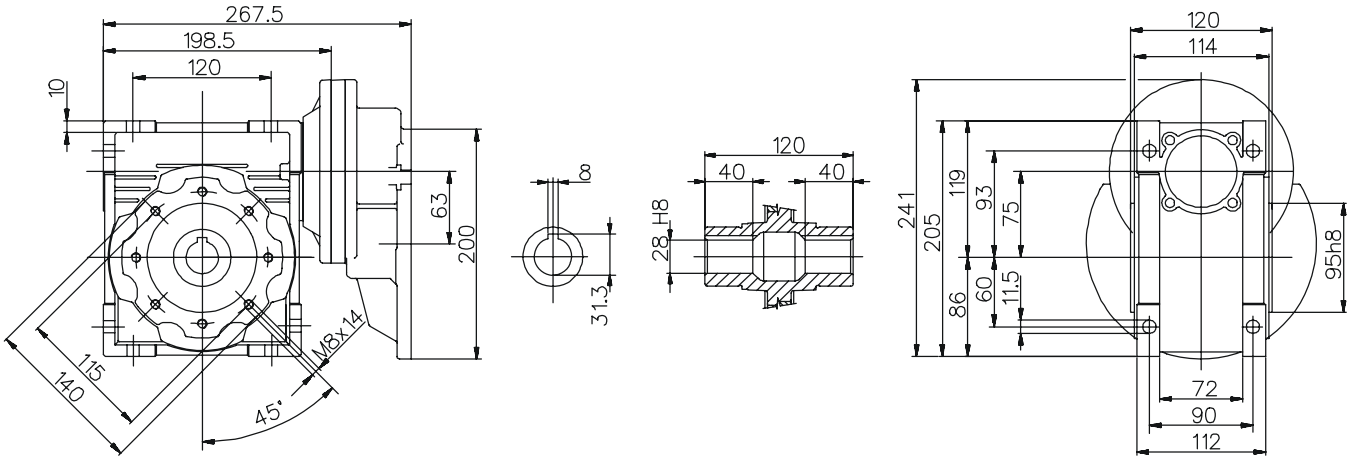
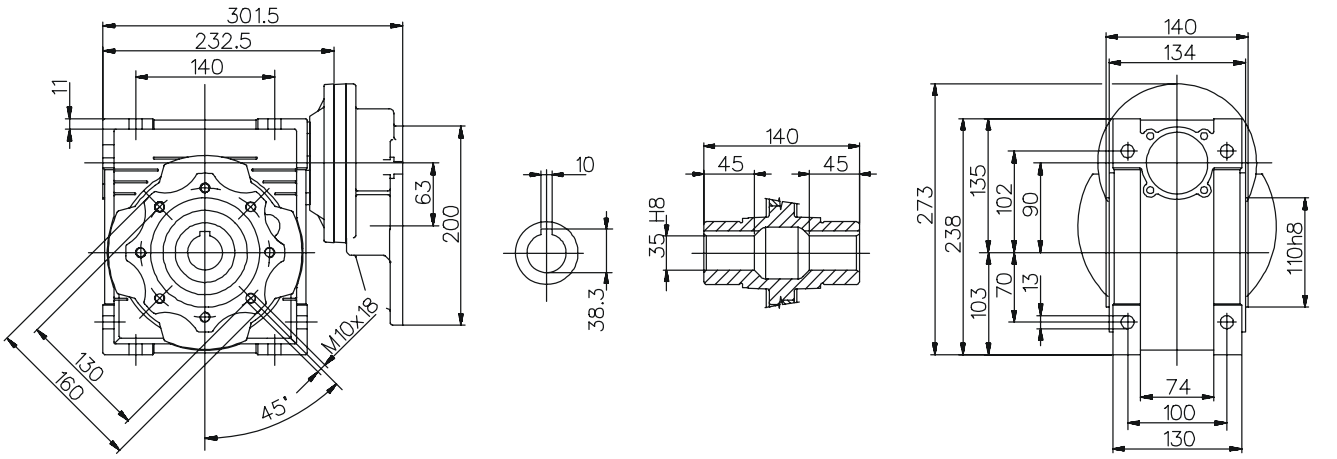
PC 071 - EMAW090 Dimensions



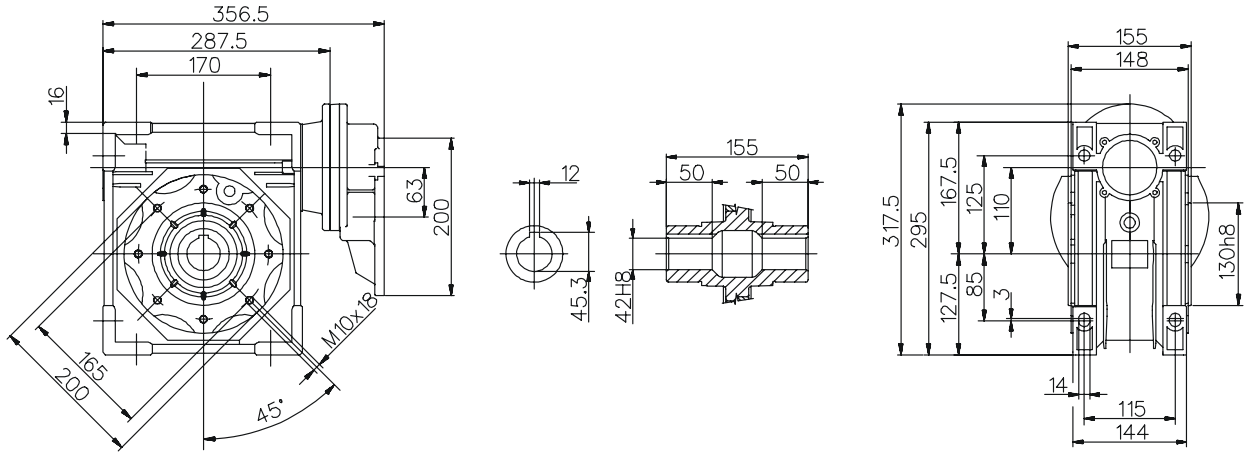
PC 080 - EMAW075 Dimensions



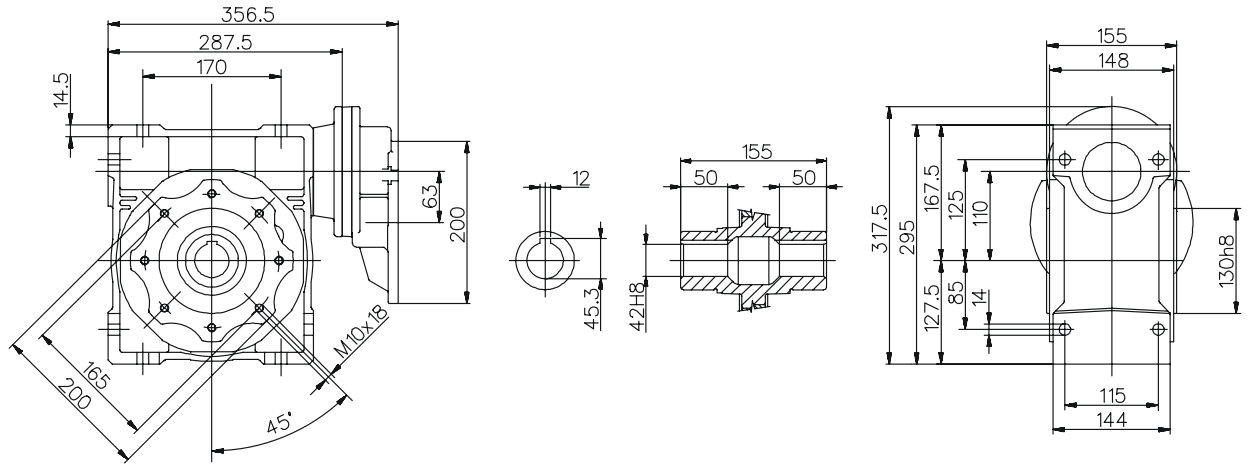
PC 063 - EMAW090 Dimensions



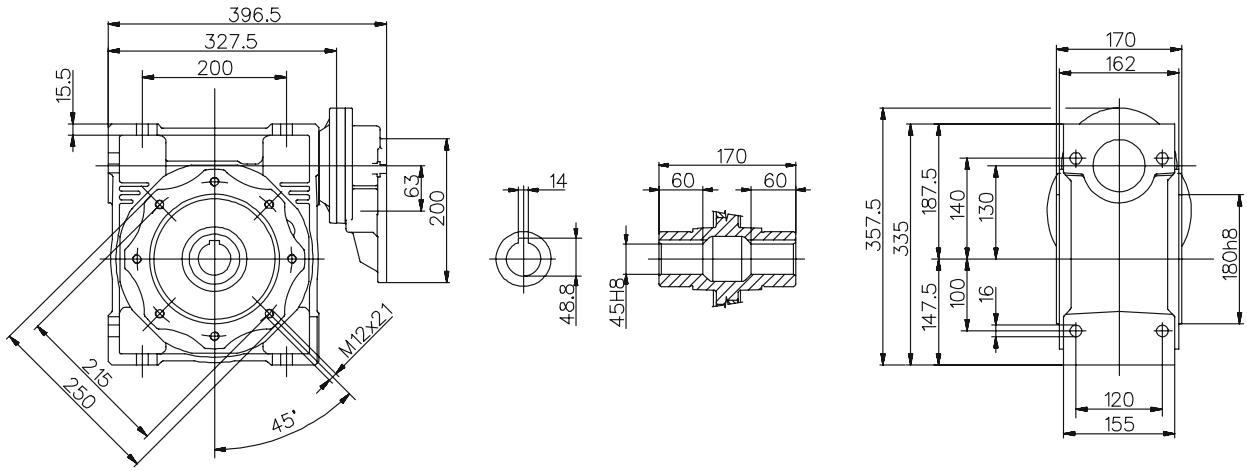
PC 090 - EMAW105 Dimensions



PC 090 - EMAW110 Dimensions



PC 090 - EMAW130 Dimensions



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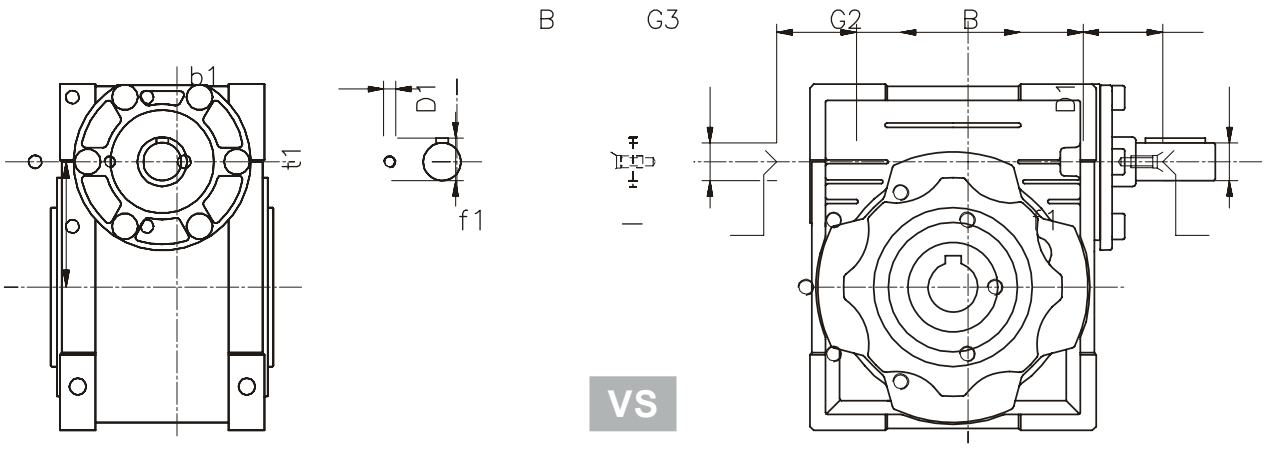
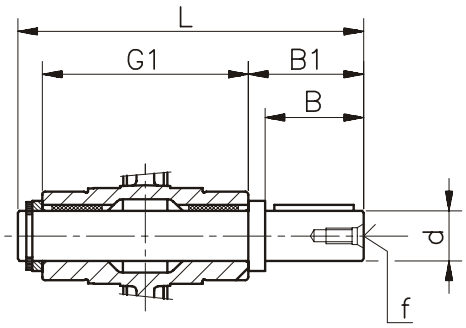
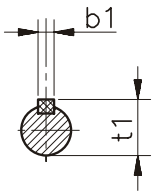
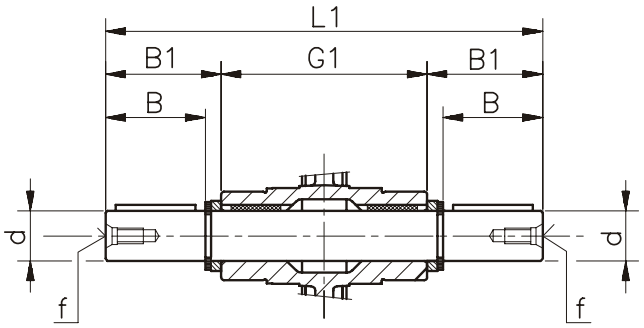


EMW	030	040	050	063	075	090	105	110	130	150
B	20	23	30	40	50	50	60	60	80	80
D1	9 j6	11 j6	14 j6	19 j6	24 j6	24 j6	28 j6	28 j6	30 j6	35 j6
G2	51	60	74	90	105	125	142	142	162	195
G3	45	53	64	75	90	108	135	135	155	175
I	30	40	50	63	75	90	110	110	130	150
b1	3	4	5	6	8	8	8	8	8	10
f1	-	-	M6	M6	M8	M8	M10	M10	M10	M12
t1	10,2	12,5	16	21,5	27	27	31	31	33	38





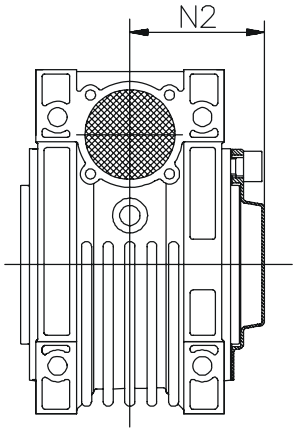
AS



AB

Size	d	B	B1	G1	L	L1	f	b1	t1
025	11g6 (9)	23 (25)	25,5 (30)	50	81 (85,5)	101	-	4 (3)	12,5 (10,2)
030	14 h6	30	32,5	63	102	128	M6	5	16
040	18 h6	40	43	78	128	164	M6	6	20,5
050	25 h6	50	53,5	92	153	199	M10	8	28
063	25 h6	50	53,5	112	173	219	M10	8	28
075	28 h6	60	63,5	120	192	247	M10	8	31
090	35 h6	80	84,5	140	234	309	M12	10	38
110	42 h6	80	84,5	155	249	324	M16	12	45
130	45 h6	80	85	170	265	340	M16	14	48,5
150	50 h6	82	87	200	297	374	M16	14	53,5

EMAW Output Covers



	N2
030	42
040	50
050	57.5
063	68.5
075	73.5
090	85.5
105	94
110	94
130	102
150	117

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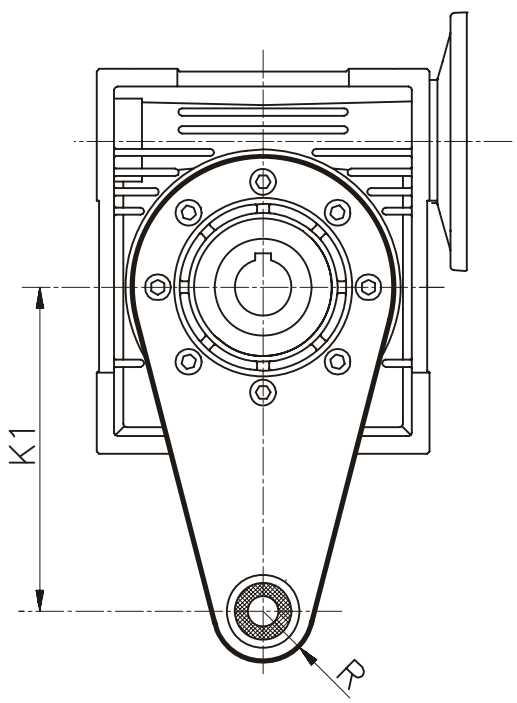

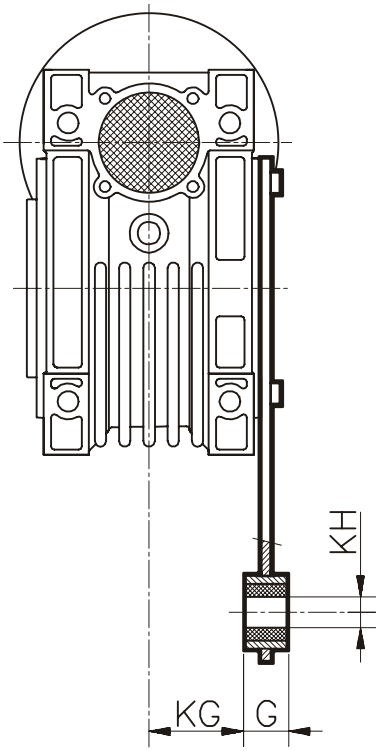

Size	K1	G	Kg	KH	R
025	70	14	17,5	8	15
030	85	14	24	8	15
040	100	14	31,5	10	18
050	100	14	38,5	10	18
063	150	14	49	10	18
075	200	25	47,5	20	30
090	200	25	57,5	20	30
110	250	30	62	25	35
130	250	30	69	25	35
150	250	30	84	25	35

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